

## Material: SAE 1146

### Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, To Wire Rods, Plates, Strip, Sheets and Tubing

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** SAE 1146 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, Wire Rods, Plates, Strip, Sheets and Tubing

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries

**Grade Belongs to the Industry:** Bars, Wire Rods, Plates, Strip, Sheets and Tubing

Chemical Composition			Heat Treatment	
Carbon	C %	0.420 - 0.490	As Raw or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	0.700 - 1.000		
Phosphorus	P %	0.030 max.		
Sulphur	S %	0.080 - 0.130		
Lead	Pb %	0.150 - 0.350		
Iron	Fe %	Balance		
-	-	-		
-	-	-	<b>Mechanical Properties</b> Tensile Strength in Mpa 590 - 650 Yield Strength in Mpa 320 min. Elongation in % 12 min. Reduction of Area in % 35 - 40 Hardness in HB 170 - 187 Impact in Joule -	
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-	-	-		
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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G11460	UNS	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1146	AISI	USA	Steel and Bar
A 1040 1146	ASTM	USA	Steel
A 29 1146	ASTM	USA	Steel and Bar
A 510 1146	ASTM	USA	Wire Rod, Round Wire and Steel
A 576 11L46	ASTM	USA	Steel and Bar
A 576 1146	ASTM	USA	Steel and Bar

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